

POSTER PRESENTATION

Open Access

Antibiotic resistance profile of *Staphylococcus aureus* clinical isolates from Nigeria

OO Ayepola*, L Egwari, GI Olasehinde

From 3rd International Conference on Prevention and Infection Control (ICPIC 2015) Geneva, Switzerland. 16-19 June 2015

Introduction

Hospital-acquired infections with *Staphylococcus aureus* have increased over the years and the rise in incidence has been accompanied by a rise in antibiotic-resistant strains notably methicillin-resistant *S. aureus* (MRSA) and more recently vancomycin-resistant strains. In order to have adequate information for treatment of infections caused by *S. aureus*, it is important to understand trends in the antibiotic-resistance patterns as well as diversity of strains across geographical regions.

Objectives

The aim of this study was to provide information on the antibiotic resistance profile and molecular characteristics of *S. aureus* strains from Nigeria.

Methods

A total of 209 non-duplicate *S. aureus* isolates obtained from clinical infections in eight medical centres were analyzed. Identification and antimicrobial susceptibility profile was performed with the automated VITEK-2 system. Detection of antibiotic resistance and virulence genes in the *S. aureus* strains was by polymerase chain reaction.

Results

Resistance was observed against penicillin (97.1%); trimethoprim/sulfamethoxazole (83.7%), tetracycline (13.8%), levofloxacin (5.7%) and gentamicin (4.8%). All strains were susceptible to azithromycin, clarithromycin, erythromycin, clindamycin, linezolid, vancomycin, nitrofurantoin, fusidic acid, mupirocin and rifampicin. The β -lactamase (*blaZ*) gene was found in 95% of all strains (n=198) while 2.87% (n=6) possessed the *mecA* gene. The staphylococcal cassette chromosome *mec* (SCC *mec*) typing of MRSA strains detected SCC *mec* type IV in one strain. A particular

MRSA strain was the only strain found to be resistant to teicoplanin, tigecycline and fosfomycin. Fifty-six percent of the strains possessed the panton valentine leukocidin (PVL) encoding gene.

Conclusion

A rise in PVL-positive *S. aureus* strains in Africa is of great concern as this could promote the emergence of highly virulent strains. The continuous surveillance of antibiotic resistance in *S. aureus* is important to prevent the spread of multidrug resistant strains.

Disclosure of interest

None declared.

Published: 16 June 2015

doi:10.1186/2047-2994-4-S1-P195

Cite this article as: Ayepola et al.: Antibiotic resistance profile of *Staphylococcus aureus* clinical isolates from Nigeria. *Antimicrobial Resistance and Infection Control* 2015 **4**(Suppl 1):P195.

Submit your next manuscript to BioMed Central and take full advantage of:

- Convenient online submission
- Thorough peer review
- No space constraints or color figure charges
- Immediate publication on acceptance
- Inclusion in PubMed, CAS, Scopus and Google Scholar
- Research which is freely available for redistribution

Submit your manuscript at
www.biomedcentral.com/submit



Biological Sciences, Covenant University, Ota, Nigeria



© 2015 Ayepola et al.; licensee BioMed Central Ltd. This is an Open Access article distributed under the terms of the Creative Commons Attribution License (<http://creativecommons.org/licenses/by/4.0/>), which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited. The Creative Commons Public Domain Dedication waiver (<http://creativecommons.org/publicdomain/zero/1.0/>) applies to the data made available in this article, unless otherwise stated.